U.S. Department of Energy

Review of the Richland Operations Office Safety System Oversight Program

Final Report

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Assessment Team

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EXECUTIVE SUMMARY

A Federal Technical Capability Panel (FTCP) team from the DOE Idaho Operations Office and the DOE Richland Operations Office (RL) reviewed the RL Safety System Oversight (SSO) Program and its implementation. The team found that RL had developed an effective SSO Program that met the requirements of DOE M 426.1-1A, *Federal Technical Capability Panel Manual*. The program is expected to be fully implemented by September 30, 2004. RL line management and the Assistant Manager for Safety and Engineering to whom the Safety System Oversight personnel (SSOs) report demonstrate responsibility and ownership of the RL SSO Program and its implementation toward the safe operation of RL nuclear facilities.

Several Noteworthy Practices as well as Areas of Improvement were identified.

Noteworthy Practices:

1. RL provides a web-based location where the SSOs and contractor System Engineers (SEs) can go to find a listing of the safety systems and assigned SSO and SE personnel (including assigned backups). This web site can be accessed through the RL RIMS and is accessible to both RL and contractor employees.

2. RL management encourages professional engineering licenses for SSOs and SSO participation in national professional organizations, such as ASME.

3. RL SSOs and FRs work as a team, understanding each other's roles, and communicating well with each other. The RL organizational arrangement where both groups report to the same manager (Assistant Manager for Safety and Engineering) seems to be a major contributing factor in this behavior.

4. The RL SSO Program requires that SSO responsibilities are included and maintained in Individual Performance Plans (IPPs). Expectations include SSO programmatic responsibilities (e.g., maintaining qualification, document reviews, and communication), contractor oversight, and teamwork within the RL organization.

5. RL and the contractor use a joint Integrated Evaluation Plan (IEP) for scheduling assessments during each fiscal year. RL prepares its annual division level Master Oversight Plan (MOP) and includes it in the IEP. The MOP and the IEP are revisited and adjusted quarterly in response to emerging issues and changing priorities.

Opportunities for Improvement:

1. Update SSO roles, responsibilities, authorities, and accountabilities referenced in the RL Functions, Responsibilities, and Authorities Manual (FRAM).

2. Document the process RL and the contractor use to determine which systems are subject to DNFSB Recommendation 2000-2 oversight. The decision criteria and basis for making these decisions should be documented.

3. Complete and document the SSO qualification process in a timely manner.

4. Implement a practice of interfacing between the SSO and the contractor SE during the SSO qualification process. This practice is currently not implemented, and the new RL SSO program does not contain this requirement.

5. Participate more broadly in the contractor assessment processes. Currently RL SSO participates only in contractor annual facility assessments and do not oversee or participate in contractor quarterly walk downs and monthly operability trend reviews.

6. Clarify and document the expectation for "stop work" authority for SSOs with respect to safety systems in the RL SSO Program description and RL procedures.

7. Consider the benefits to be derived from including periodic third party technical reviews of the RL contractor System Engineer Program and implementation in the RL and contractor joint Integrated Evaluation Plan.

INTRODUCTION

In May 2004, the Department of Energy (DOE) published DOE M 426.1-1A, *Federal Technical Capability Panel Manual,* and thus institutionalized the Safety System Oversight (SSO) Program to monitor the performance of Vital Safety Systems in DOE nuclear facilities and to evaluate effectiveness of the Contractor's cognizant System Engineer Program. DOE M 426.1-1A describes the SSO function, including roles and responsibilities of SSO personnel (SSO), and defines the knowledge, skills and abilities to be incorporated into technical qualification programs for SSOs.

The objective of this review was to evaluate progress by the Richland Operation Office (RL) in developing and implementing an SSO program. The reporting format described in DOE M 426.1-1A was used to document results of the review.

SCOPE AND METHODOLOGY

The review was performed by the FTCP Agent for the Idaho Operations Office (NE-ID) and the NE-ID Alternate FTCP Agent. The RL SSO Team Lead and the Confinement Ventilation System (CVS) SSO provided assistance on behalf of RL in the conduct of this review. Criteria and Review Approach Documents (CRADs) developed by the Federal Technical Capabilities Panel (FTCP) were used to evaluate actions taken to define and implement the SSO Program at RL. The CRADs are provided in Attachment A of this report.

The review was performed by assessment of SSO program documents developed by RL as well as interviews with line management, SSO personnel, and contractor personnel responsible for vital safety systems (VSS). The results of document reviews and interviews are documented in the "Results" section of this report and broken out by the four CRADs functional areas: Program (PGM); Training and Qualification (TQ); Management (MG); and Oversight Performance (OP).

RECORDS REVIEWED/PERSONNEL INTERVIEWED

Documents reviewed:

2. RL Engineering Program
3. RL SSO Program
4. SSO Instructions and Exhibits
5. RL and Contractor Vital Safety System Lists
6. RL SSO Qualification Program
7. RL SSO Qualification Standard
8. Richland System Engineer Program (RLSE)
9. RLSE Qualification Card

10. RL SSO Qualification Card (example)
11. RL SSO Program Master Oversight Plans
12. Requirements Record of Decision (ROD) for DOE M 426.1-1A
13. RL Functions, Responsibilities, and Authorities Manual (FRAM)
14. RL Richland Integrated Management System (RIMS) SSO and Integrated Evaluation Plan (IEP)
15. Fluor Hanford (FH) System Engineer Program
16. SSO Individual Performance Plans
17. FH System Engineer Program Manager Annual Report
18. HNF-PRO-16331, *System Engineer Program*
19. FH/RL Planned VSS Assessments Listing

Personnel interviewed:

1. Fire Protection SSO
2. Confinement Ventilation System (CVS) SSO
3. RL SSO Team Lead
4. RL Plutonium Finishing Plant (PFP) Deputy Project Director
5. PFP Facility Representative (FR)
6. Fluor Hanford (FH) Chief Engineer
7. FH CVS System Engineer
8. FH SE Program Manager
9. RL Assistant Manager for Safety and Engineering (AMSE)
10. RL Deputy Manager

RESULTS

Program (PGM)

OBJECTIVE

PGM.1 An effective SSO Program is established by the Field Element Manager to apply engineering expertise to maintain safety system configuration and to assess system condition and effectiveness of safety management program implementation.

Discussion of Results:

The RL SSO program was observed to be established and documented in the Richland Integrated Management System (RIMS). The program fully describes SSO responsibilities for overseeing vital safety systems (VSS) to ensure they will perform as required by the safety basis and other applicable requirements. The RL SSO program underscores the importance of Integrated Safety Management System (ISMS) processes to help ensure systems are able to perform their designed safety functions. Furthermore, the RL SSO Program description clearly states, “Effective implementation of ISMS relies

upon the ability to apply engineering expertise to maintain safety system configuration and assess system condition and effectiveness of safety management program implementation." The RL SSO program includes a complete description of SSO roles and responsibilities. However, the review team identified an **opportunity for improvement** to update SSO roles, responsibilities, authorities and accountabilities referenced in the RL Functions, Responsibilities, and Authorities Manual (FRAM).

The review team identified a RL **noteworthy practice** of providing a web-based location where the SSOs and contractor System Engineers (SEs) can go to find a listing of the safety systems and assigned SSO and SE personnel (including assigned backups). This web site can be accessed through the RL RIMS and is accessible to both RL and contractor employees.

The review team observed that RL and contractor communicate on issues concerning which safety systems are VSS subject to SSO and SE oversight. For purposes of Defense Nuclear Facilities Safety Board (DNFSB) Recommendation 2000-2, all active safety-significant and safety-class systems, structures and components (SSC) are VSS and will be subject to SSO oversight. Design features identified as safety-class or safety-significant in the Documented Safety Analysis (DSA) are often considered passive and therefore not included in the RL SSO oversight program. VSS that perform important defense-in-depth functions and are active systems that protect the health and safety of the public, workers, and the environment are designated VSS at the discretion of line management. Although RL and contractor communicate on which safety systems are subject to DNFSB Recommendation 2000-2 oversight, there is an **opportunity for improvement** to document this process, including decision criteria and basis for making these decisions.

The RL SSO program requires that the SSO report potential or emergent hazards immediately to DOE line management and Facility Representatives (FR). However, the RL SSO program description does not reflect the fact that all of the SSOs report to a single supervisor in the RL office of the Assistant Manager for Safety and Engineering, outside the line management. This reporting mechanism provides some organizational independence when raising issues or hazards to line management and should be discussed in the program description.

Training and Qualification (TQ)

OBJECTIVE

TQ.1 SSO personnel and supervisors with responsibilities for SSO personnel are appropriately trained and qualified, or are in the process of achieving qualification.

Discussion of Results:

The RL SSOs were initially qualified under the RL System Engineer (RLSE)

qualification program. This program was developed and implemented approximately two years ago and in response to the DNFSB Recommendation 2000-2. RL anticipated the need to establish and qualify federal system engineers and developed a RLSE qualification standard. The development of this standard took advantage of the existing qualification process for facility representatives (FRs) utilizing existing general and technical qualification standards and adapting facility specific standards to reflect assigned safety system criteria. RL has developed a SSO qualification program and standard compliant with DOE M 426.1-1A and is currently beginning their implementation. The review team reviewed the qualification cards of the six RL SSOs and found them to be compliant with DOE M 426.1-1A. RL is scheduled to complete qualification of all six SSOs by September 30, 2004. The review team identified an **opportunity for improvement** to complete and document the RL SSO qualification process in a timely manner.

When reviewing the qualification process, the review team noted that the former RLSE program qualification standard and card required that "…for higher risk systems …these systems require a detailed system walk down with the contractor SE." The new RL SSO program does not contain this requirement and it was apparent during interviews with SSO and contractor SE personnel that this practice was not implemented. Accordingly, the review team identified an **opportunity for improvement** to implement the practice of interfacing between the SSO and the contractor SE during the qualification process. The interfacing should include a simultaneous detailed system walk down by both parties.

The RL SSO Qualification Program description encourages that professional engineering licenses are to be viewed as a significant demonstration of competence when selecting SSO candidates. Three of the six RL SSOs are Professional Engineers (PE) as is one of the backups. The Individual Development Plans for two aspiring candidates for the Fire Protection SSO position contain language encouraging the attainment of professional engineering license. During the review team's interviews with the RL SSOs, it became apparent that RL management was very supportive of professional engineering licenses and participation in professional standard-setting bodies such as the American Society of Mechanical Engineers (ASME). Although this is not a requirement in DOE M 426.1-1A, RL management's encouragement of professional engineering licenses for SSOs and SSO participation in national professional organizations is considered **noteworthy**.

Management (MG)

OBJECTIVE

MG.1 SSO Supervisors effectively perform their SSO program responsibilities.

Discussion of Results:

In accordance with the RL SSO Program, SSO personnel report to Senior Technical

Safety Managers and regularly coordinate with the FRs to ensure operability of specific safety systems. During interviews and document reviews it became apparent that there was effective interaction between SSOs and FRs. SSOs focus on the details of safety systems and operability while FRs focus on the integrated operational aspects of these systems.

The review team observed that there was a strong teaming arrangement between the SSOs and FRs. This may be a result of the RL organizational arrangement where both groups report to the same manager (Assistant Manager for Safety and Engineering). Routine meetings involving both groups and the benefits resulting from a common leadership philosophy and strong commitment to both programs may contribute to the cooperation and communication. The observed level of understanding of each other's roles and the commitment to cooperate between RL SSOs and FRs is **noteworthy**.

The RL SSO Program requires that SSO responsibilities are included and maintained in individual performance plans. The review team examined the Individual Performance Plans (IPP) for some of the SSOs. The IPP is a supervisory performance agreement tailored to each individual and is the basis for personnel accountability. The SSO IPPs that were reviewed included clear expectations at the "fully successful" and "highly successful" levels. Expectations included SSO programmatic responsibilities (e.g., maintaining qualification, document reviews, and communication), contractor oversight, and teamwork within the RL organization. The inclusion of SSO roles, responsibilities and expectations in the SSO IPP is a **noteworthy practice**.

Oversight Performance (OP)

OBJECTIVE

OP.1 Collectively, SSO personnel provide oversight of the Contractors' System Engineer Program.

OP.2 SSO personnel are knowledgeable and familiar with assigned safety systems and/or programs.

Discussion of Results:

The RL SSO Program oversight of the contractor is largely premised on assessing the contractor Independent Assessment (formerly called Facility Evaluation Boards or FEBs) of facility areas, including VSS. Annually, SSOs assess (shadow) the Independent Assessment (IA) and provide a written report to the contractor. These periodic SSO assessments are scheduled in advance in the Integrated Evaluation Plan (IEP) using the Master Oversight Plan (MOP, a RL Division Level document) process. The IEP represents a joint plan by both RL and the contractor for performing assessments during the fiscal year. The IEP and MOP are revisited and adjusted once each quarter in response to emerging issues and changing priorities. The review team reviewed this process, which provided for annual oversight planning and coordination with the

contractor. The integration of the contractor and RL oversight process is a **noteworthy practice**.

The RL SSO Program requires that each SSO select a safety system for assessment during the contractor IA process. The RL SSO rigorously assesses the performance of the contractor SE, the integrity of the safety system, and the effectiveness of the IA process. The contractor conducts quarterly safety system walk downs and monthly operability trend reviews in addition to the IA of individual facility areas. The contractor personnel stated that they also maintained system engineer notebooks, which documented their system engineering work activities. During interviews with SSOs and contractor SEs, it was determined that there was an **opportunity for improvement** for RL to participate more broadly in the contractor self-assessment processes. For example, SSOs may periodically assess contractor quarterly walk downs.

The review team was not able to find any discussion on "stop work" authority in the RL SSO Program description. Discussions with RL SSOs and FRs indicated that some confusion existed on the scope of stop work authority for imminent hazard to the worker vs. the impending failure of a safety system. These two outcomes were viewed differently with regard to exercising stop work authority. In addition, the expectation for stop work for SSOs with respect to safety systems has not been clarified in RL procedures. Clarifying stop work authority for SSOs is viewed as an **opportunity for improvement.**

Although the RL contractor seemed to have a comprehensive system to assess its System Engineer (SE) Program, there were no third party reviews scheduled as a part of the overall assessment plan. The review team noticed an **opportunity for improvement** for RL and the RL contractor System Engineer Program to consider the benefits to be derived from periodic third party technical reviews of the contractor SE program and implementation as a part of the Integrated Evaluation Plan (IEP). Such outside reviews give an independent evaluation, not biased by those involved in the day-to-day implementation, of programs and procedures.

CONCLUSIONS AND RECOMMENDATIONS

DOE-RL (RL) has developed an effective SSO Program that meets the requirements of DOE M 426.1-1A, *Federal Technical Capability Panel Manual*. The program is expected to be fully implemented by September 30, 2004. RL line management and the Office of Safety and Engineering to which the SSOs report demonstrate responsibility and ownership of the RL SSO Program and its implementation toward the safe operation of RL nuclear facilities.

Several Noteworthy Practices as well as Areas of Improvement were identified.

Noteworthy Practices:

1. RL provides a web-based location where the SSOs and contractor System Engineers (SEs) can go to find a listing of the safety systems and assigned SSO and SE personnel (including assigned backups). This web site can be accessed through the RL RIMS and is accessible to both RL and contractor employees.

2. RL management encourages professional engineering licenses for SSOs and SSO participation in national professional organizations, such as ASME.

3. RL SSOs and FRs work as a team, understanding each other's roles, and communicating well with each other. The RL organizational arrangement where both groups report to the same manager (Assistant Manager for Safety and Engineering) seems to be a major contributing factor in this behavior.

4. The RL SSO Program requires that SSO responsibilities are included and maintained in Individual Performance Plans (IPPs). Expectations include SSO programmatic responsibilities (e.g., maintaining qualification, document reviews, and communication), contractor oversight, and teamwork within the RL organization.

5. RL and the contractor use a joint Integrated Evaluation Plan (IEP) for performing assessments during each fiscal year. RL prepares its annual division level Master Oversight Plan (MOP) and includes it in the IEP. The MOP and the IEP are revisited and adjusted quarterly in response to emerging issues and changing priorities.

Opportunities for Improvement:

1. Update SSO roles, responsibilities, authorities, and accountabilities referenced in the RL Functions, Responsibilities, and Authorities Manual (FRAM).

2. Document the process RL and the contractor use to determine which systems are subject to DNFSB Recommendation 2000-2 oversight. The decision criteria and basis for making these decisions should be documented.

3. Complete and document the SSO qualification process in a timely manner.

4. Implement a practice of interfacing between the SSO and the contractor SE during the SSO qualification process. This practice is currently not implemented, and the new RL SSO program does not contain this requirement.

5. Participate more broadly in the contractor assessment processes. Currently RL SSO participates only in contractor annual facility assessments and do not

oversee or participate in contractor quarterly walk downs and monthly operability trend reviews.

6. Clarify and document the expectation for "stop work" authority for SSOs with respect to safety systems in the RL SSO Program description and RL procedures.

7. Consider the benefits to be derived from including periodic third party technical reviews of the RL contractor System Engineer Program and implementation in the RL and contractor joint Integrated Evaluation Plan.

ATTACHMENT: Safety System Oversight (SSO) Program Implementation Assessment Criteria Review and Approach Documents (CRADs)

-- Original signed by *-- Original signed by*

Attachment A

Criteria and Review Approach Documents (CRADs)

Safety System Oversight (SSO) Program Implementation Assessment Criteria and Review Approach Documents (CRADs)

Revision 0

PROGRAM (PGM)

OBJECTIVE

PGM.1 An effective SSO Program is established by the Field Element Manager to apply engineering expertise to maintain safety system configuration and to assess system condition and effectiveness of safety management program implementation.

Criteria

PGM.1.1 The SSO Qualification Program is part of the Technical Qualification Program (DOE M 426.1-1A, Chapter III, Section 1, 2.b (1)).

PGM.1.2 The SSO Program establishes appropriate training, qualification, and performance requirements for SSO personnel and the supervisors are held accountable for achieving them (DOE M 426.1-1A, Chapter III, Section 1, 2.b (2)).

PGM.1.3 The safety systems and safety management programs included in the SSO Program align with those systems and programs identified in the applicable Documented Safety Analysis (DOE M 426.1-1A, Chapter III, Section 1, 4.c).

PGM.1.4 Safety system oversight requirements are defined and implemented, for example, functions, responsibilities, and authorities of personnel assigned to perform safety system oversight and their interface/support of Facility Representatives are clearly defined, and SSO staffing needs are identified and there is a plan or process to ensure future staffing needs are met and maintained (DOE M 426.1-1A, Chapter III, Section 1, 2.b (3) & (4)).

PGM.1.5 Affected DOE and contractor managers understand the SSO role and relationship to Facility Representatives and the contractor's cognizant System Engineers, and provide the necessary access and support (DOE M 426.1-1A, Chapter III, Section 1, 3.d).

PGM.1.6 Qualifying Officials are assigned to sign site-specific Qualification Cards (DOE M 426.1-1A, Chapter III, Section 1, 2.b (6)).

PGM.1.7 The SSO Program contains features to verify that SSO candidates possess the required level of knowledge and/or skills to perform assessments and investigations to confirm performance of safety systems in meeting established safety and mission requirements (DOE M 426.1-1A, Chapter III, Section 1, 2.b (5)).

Approach

Record Review: Review documentation (e.g., site technical qualification program documents, SSO Program Plan, SSO Program procedures, qualification cards and/or standards, internal memorandums, Documented Safety Analyses, etc.) which establish the SSO Program and describe its implementation to determine that the program is complete and comprehensive.

Interviews: Interview management personnel with responsibilities for implementing and executing the SSO program to determine if they are familiar with the role of SSO personnel relative to the Facility Representatives and the contractor's cognizant system engineers, if they provide adequate resources for training, qualification, future staffing, and performance of SSO personnel, and if they appropriately qualified to perform their assigned role in the SSO program. Interview qualifying officials to determine if they are familiar with their role and responsibility, they are currently qualified, and they are performing their assigned role.

Field Observation: Evaluate any process used by or directed by the Field Element Manager to determine the effectiveness of SSO Program Performance.

TRAINING AND QUALIFICATION (TQ)

OBJECTIVE

TQ.1 SSO personnel and supervisors with responsibilities for SSO personnel are appropriately trained and qualified, or are in the process of achieving qualification.

Criteria

TQ.1.1 Supervisors with responsibilities for SSO personnel maintain Senior Technical Safety Manager (STSM) qualification (DOE M 426.1-1A, Chapter III, Section 1, 2.c (1)).

TQ.1.2 Site-specific qualification standards and cards have been developed and a documented process is implemented to assure that SSO candidates meet, at a minimum, the SSO knowledge, skills, and abilities specified in the *Federal Technical Capability Manual* DDOE 426.1-1A, Chapter III, Section 1, 5.a & 5.b)

TQ.1.3 All SSO personnel have completed or are completing the General Technical Base Qualification Standard (DOE-STD-1146-2001) and one or more Functional Area Qualification Standard(s) in a technical area linked to their individual job descriptions (DOE M 426.1-1A, Chapter III, Section 1, 4.a).

TQ.1.4 All SSO personnel have completed or are completing the site-specific qualification standard associated with assigned safety systems (DOE M 426.1-1A, Chapter III, Section 1, 4.a).

TQ.1.5 SSO Supervisors have established methods to assign initial qualification dates, track progress toward qualification, and ensure retraining/requalification occurs as required for each SSO candidate in the qualification process (DOE M 426.1-1A, Chapter III, Section 1, 2.c (4) through (6)).

Approach

Record Review: Review qualification records to establish that supervisors and managers of SSO are qualified as an STSM and that SSO personnel are trained and qualified. Review qualification and requalification schedules, staffing plans, training plans, travel funding, etc. to determine that sufficient resources are provided for training, retraining, qualifying, and requalifying SSO personnel.

Interviews: Interview supervisors, training coordinators, SSO personnel, and budget personnel to establish that training and qualification plans and schedules are being executed as planned and that sufficient resources are provided to meet the schedules.

Field Observation: Observe activities associated with the qualification process, such as qualification boards, exams, walk throughs to determine that the training and qualification process is implemented and functioning effectively.

MANAGEMENT (MG)

OBJECTIVE

MG.1 SSO Supervisors effectively perform their SSO program responsibilities.

Criteria

MG.1.1 Site-specific SSO qualification standards and cards are developed (DOE M 426.1-1A, Chapter III, Section 1, 2.c (2)).

MG.1.2 Supervisors have identified and approved SSO candidate selection (DOE M 426.1-1A, Chapter III, Section 1, 2.c (3)).

MG.1.3 Supervisors of SSO personnel have established SSO personnel qualification schedules and are tracking progress (DOE M 426.1-1A, Chapter III, Section 1, 2.c (4)).

MG.1.4 Supervisors facilitate SSO qualification (e.g., ensure sufficient time and training are provided to complete qualification tasks) (DOE M 426.1-1A, Chapter III, Section 1, 2.c (5)).

MG.1.5 Supervisors ensure SSO personnel are trained and qualified to perform assigned duties (DOE M 426.1-1A, Chapter III, Section 1, 2.c (6)).

MG.1.6 SSO responsibilities are included and measured in Individual Performance Plans (DOE M 426.1-1A, Chapter III, Section 1, 2.c (7)).

MG.1.7 Ensure SSO qualifications are maintained current by training and assignments planned in Individual Development Plans (DOE M 426.1-1A, Chapter III, Section 1, 2.c (8)).

MG.1.8 SSO Supervisors periodically evaluate program effectiveness and implement corrective actions in a timely manner (DOE M 426.1-1A, Chapter III, Section 1, 2.c (9)).

Approach

Record Review: Review qualification cards, Individual Performance Plans, and other SSO program documents and procedures to establish that managers and supervisors are effectively performing their responsibilities as defined in the SSO program. Review other documentation used by supervisors to establish SSO program effectiveness and implementation of corrective actions.

Interviews: Interview supervisors and managers to establish that they are familiar with their assigned roles, they perform their assigned duties, monitor the effectiveness of the SSO program and ensure any identified corrective actions are implemented.

Field Observation: Observe any activities associated with SSO program effectiveness evaluations and/or corrective action implementation.

OVERSIGHT PERFORMANCE (OP)

OBJECTIVE

OP.1 Collectively, SSO personnel provide oversight of the Contractors' System Engineer Program.

Criteria

OP.1.1 Oversight performed by SSO personnel establishes that the contractor System Engineer Program is effectively implemented with goals, objectives, and performance measures (DOE M 426.1-1A, Chapter III, Section 1, 2.a (1)).

OP.1.2 SSO personnel maintain communication with the contractor's cognizant System Engineer (DOE M 426.1-1A, Chapter III, Section 1, 2.a (1)).

OP.1.3 SSO personnel monitor performance of the contractor's cognizant System Engineer Program (DOE M 426.1-1A, Chapter III, Section 1, 2.a (1)).

OP.1.4 SSO personnel attend selected contractor meetings with Facility Representatives and contractor personnel responsible for system performance (e.g., cognizant System Engineers, design authorities, and program managers) (DOE M 426.1-1A, Chapter III, Section 1, 2.a (3)).

Approach

Record Review: Review oversight documentation, such as SSO assessment reports, SSO walk throughs, correspondence, SSO activity records or logs, corrective action documents, etc. to establish that SSO personnel are overseeing implementation and execution of the contractor system engineer program. Review the contractor's system engineer program to determine whether there are any program weaknesses or deficiencies that have not been identified by SSO personnel.

Interviews: Interview SSO personnel, Facility Representatives, and contractor system engineers to establish the level of interface between SSO personnel and the contractor's cognizant system engineers.

Field Observation: Observe any oversight activities of the contractor's system engineer program performed by SSO personnel.

OBJECTIVE

OP.2 SSO personnel are knowledgeable and familiar with assigned safety systems and/or programs.

Criteria

OP.2.1 A qualified SSO is, in fact, knowledgeable of the system status, performance, maintenance, operations, design, and vulnerabilities of their assigned systems or programs. This is evidenced by:

- OP.2.1.1 SSO personnel regularly and routinely review periodic system health/status reports (DOE M 426.1-1A, Chapter III, Section 1, 2.a (2)).
- OP.2.1.2 SSO personnel review test results, investigation reports, root cause analyses, etc (DOE M 426.1-1A, Chapter III, Section 1, 2.a (2)).
- OP.2.1.3 SSO personnel interface with external organizations that can provide insights on performance (DOE M 426.1-1A, Chapter III, Section 1, 2.a (2)).
- OP.2.1.4 SSO personnel perform assessments, periodic evaluations of equipment configuration and material condition and safety management program implementation (DOE M 426.1-1A, Chapter III, Section 1, 2.a (3)).
- OP.2.1.5 SSO personnel evaluate the effects of aging on system equipment and components, the adequacy of work control and change control processes, and consider the appropriateness of system maintenance and surveillance activities with respect to reliable performance of safety function(s) (DOE M 426.1-1A, Chapter III, Section 1, 2.a (3)).
- OP.2.1.6 SSO personnel identify technical issues and participate actively in the resolution of the issues.

OP.2.2 Safety systems and safety management programs have established goals, objectives, and performance measures

OP.2.3 SSO personnel perform evaluations of contractor troubleshooting, investigations, root cause evaluations, and selection and implementation of corrective actions, in conjunction with Facility Representatives (DOE M 426.1-1A, Chapter III, Section 1, 2.a (4)).

OP.2.4 SSO personnel provide support to other Federal employees, as appropriate. (DOE M 426.1-1A, Chapter III, Section 1, 2.a (5))

OP.2.5 SSO personnel assess contractor compliance with relevant DOE regulations, industry standards, contract requirements, safety basis requirements, and other system requirements (DOE M 426.1-1A, Chapter III, Section 1, 2.a (6)).

OP.2.6 SSO personnel confirm configuration documentation, procedures, and other sources of controlling information are current and accurate (DOE M 426.1-1A, Chapter III, Section 1, 2.a (7)).

OP.2.7 SSO personnel report potential or emergent hazards immediately to DOE line management and Facility Representatives (DOE M 426.1-1A, Chapter III, Section 1, 2.a (8)).

OP.2.8 SSO personnel stop tasks, if required, to prevent imminent impact to the health and safety of workers and the public, to protect the environment, or to protect the facility and equipment and immediately notify the on-duty or on-call Facility Representative (DOE M 426.1-1A, Chapter III, Section 1, 2.a (8)).

OP.2.9 SSO personnel serve, when assigned, as qualifying officials in the development or revision of Functional Area Qualification Standards, mentor assigned backups, and qualify other candidates to the Functional Area Qualifications Standards needed to achieve Safety System oversight qualification (DOE M 426.1-1A, Chapter III, Section 1, 2.a (9)).

OP.2.10 SSO personnel maintain cognizance of the appropriate funding and resources to maintain and improve safety systems (DOE M 426.1-1A, Chapter III, Section 1, 2.a (10)).

OP.2.11 Methods have been established for SSO personnel to routinely communicate system/program performance information and issues with STSMs and the Field Office Manager (DOE M 426.1-1A, Chapter III, Section 1, 2.a (1)).

Approach

Record Review: Review oversight documentation, such as SSO assessment reports, SSO walk throughs, correspondence, SSO activity records or logs, corrective action documents, etc. to establish that SSO personnel are performing required oversight. Review contract requirements and their flow down through the contract to the safety systems and safety management programs to establish the effectiveness of SSO personnel oversight that the contractor complies with all requirements relative to safety systems and programs. Review a sample of the safety system health reports, safety system test reports, safety system investigation reports, safety system root cause analyses, etc. to determine the effectiveness of SSO personnel knowledge and familiarity with this information.

Interviews: Interview SSO personnel to determine their knowledge of and familiarity with assigned safety systems and safety management programs, and the reports that the contractor may generate in relation to the systems and programs.

Field Observation: Observe SSO personnel walk downs and other activities in the field to establish the level of SSO personnel knowledge and familiarity of safety systems.